

Project Notes

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An Approach to Combining Technical and Financial Consultancy Services for Water Supply and Sewerage Project Development

As cities in India strive to develop infrastructure projects that are commercially viable, the need for strong process management and an approach to project development that integrates technical and financial planning has become evident. The FIRE(D) Project has assisted the city of Nagpur to develop a Request for Proposals for combined technical and financial advisory services that represents an innovation in the process of developing urban environmental infrastructure projects. This Project Note explains the need for this new approach and outlines the scope of work for consultants who might be engaged to assist a city or service authority in project development.

The traditional approach to financing urban environmental infrastructure and services — water supply, sewerage, sanitation and solid waste management — in India has been through government grants and budgetary transfers, which have not been able to keep pace with growing demand. Projects have not been developed with financial considerations, and as a result, household access has been restricted and service coverage low. This has had the most serious effect on the urban poor, who have few alternatives.

Estimates indicate that, in the future, the public sector can provide as little as only ten percent of the resources necessary to offer even the most basic services in Indian cities. Resources do exist, however, within the capital markets and financial institutions. Access to these resources, however, requires the discipline of commercial viability and the development of commercially viable or bankable projects.

Approach to Commercial Viability

Commercial viability requires the careful analysis of municipal investment capacity within a broad Urban Finance Framework. Infrastructure investments must be designed in consideration of clearly identifiable revenue streams; the need for adequate return on invest-

ments; and allocation or mitigation of risks to investors. In addition, private sector participation can improve efficiency and introduce new technologies for delivery of urban environmental services. By ensuring financial sustainability, commercial viability improves the ability of cities to provide infrastructure and services and to serve those most in need.

The traditional approach to urban infrastructure project development has been one in which technical specifications are developed first, and attention then turns to financial resources as a secondary consideration. The result is often technically complex, expensive projects which do not reflect the limited resources available. Project development within an Urban Finance Framework, however, requires that technical aspects of a project be designed within the context of the financial resources and obligations of the municipality. This means that technical and financial aspects of a project must be designed concurrently.

The Emerging Role for Project Developers from the Private Sector

At the local level, capacity to undertake this integrated approach to project development is limited. Thus, a role for technical consultants or advisors from the private

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sector has emerged. This consulting capacity has begun to develop in some areas, namely the power sector and, to a lesser extent, the transportation sector. But within the urban sector, private sector advisory capacity that combines the technical and financial aspects of project development has not fully emerged. This is, in part, a result of a lack of demand for such services.

For this reason, the FIRE(D) Project has worked to develop demand for private sector consulting and advisory capacity in the urban sector. The challenge has been not simply to foster the development of the necessary technical and financial skills, but also to develop the capacity and depth of the consulting industry.

When, in 1997, the Nagpur Municipal Corporation (NMC) requested the assistance of the FIRE(D) Project in the development of a commercially viable water supply and sewerage project, the Project took an innovative step. Instead of providing this assistance to the city directly, the FIRE(D) Project worked with the city to develop a Request for Proposals (RFP) for such combined consultancy services from private sector advisors.

The Scope of Work

The overall objective of the consultancy assignment is two fold: to assist the NMC in the process of developing a commercially viable and bankable water supply and sewerage project, which both meets the city's immediate priorities and fits within the framework of a long term plan; and to provide the necessary support in procuring private sector participation in the project.

The first task has been to assist the NMC to identify and develop the immediate priorities in the water and sewerage sectors, based on an overall 30-year master plan for water and sewerage. The consultants are also expected to develop appropriate phasing for the master plan based on a detailed assessment of the financial viability of the proposed investments, including the Pench III source development scheme which the NMC had previously proposed.

The identification of phase one investments during the next two to three years is a key element in the first task. This is expected to be done in consideration of the critical need for water and sewerage in the city; potential operational improvements in the areas of reduction of leakages and optimization of existing assets; capital investment requirements in other sectors such as roads, solid waste and slums; and enhancement of resources through tariff revisions, improved collections and introduction of new measures. It is also expected to include significant consultation involving all key stakeholders.

The scope of work includes development of strategies

for enhancement of operational efficiency of the water sector in the city. In this context, the consultants are expected to review the existing distribution system in order to optimize the utilization of existing water and sewerage assets; and produce a strategy for reduction of non-revenue water which addresses physical leakages as well as administrative losses.

The NMC plans to implement the first phase activities through a form of private sector participation (PSP). Thus, the assignment also requires collection of all information necessary to support PSP. Preparation of documents to solicit PSP, such as a project description document and the RFP, are also part of the assignment. Finally, the consultants will assist the NMC in the bidding process. In all activities, the consultants must work in close association with the NMC and its project development advisors.

The assignment is divided into six discrete tasks, with carefully identified outputs, to be undertaken over a period of 12 months. Task 1 is clearly the first step to be taken; the remaining are to be undertaken simultaneously.

Task 1: Long Term Perspective Planning and Phasing

The overall assignment begins with the development of a long term perspective (master) plan for the city of Nagpur, broken into three activities.

- 1) Preparation of a long-term, 30-year Perspective Plan from 2001 to 2031
- 2) Assessment of NMC finances and forecasts. A framework, provided in the RFP, specifies analysis of the NMC's financial performance, financial projections, alternative tariff structures, financial feasibility and sensitivity analysis.
- 3) Phasing of water and sewerage investments through consultation, to be designed based on consultation not only with the NMC but with other stakeholders. Consultants are to plan and conduct these consultations.

Task 2: Detailed Project Report for Phase I and Supporting Documentation

Based on the Preliminary Project Report developed under Task 1, the consultant will produce:

- 1) Detailed Project Report (DPR), which provides a conceptual framework, location and magnitude of the Phase I Project; design of components, controls and instrumentation; leak reduction strategy; detailed bill of quantities; and schematic and working drawings of existing and proposed facilities.
- 2) Environmental and Social Assessment Report
- 3) cost and financial analysis
- 4) Updating of the Financial Institution Preliminary Project Report, for which a suggested outline is provided as an annex;
- 5) collection and compilation of background information.

The Need for Process Management

The development of commercially viable projects requires considerable investment in project documentation, development of institutional arrangements for project implementation, approvals and clearances from stakeholders, financial structuring, selection of contractor, operator or concessionaire and ensuring overall financial closure. There is also a constant need to attend to mitigation and minimization of risks.

A wide range of actors must be involved in all these processes, and most public sector entities typically do not have sufficient human resources to carry out these tasks. Thus, projects often fail to take off because process management is lacking.

Process management is the key role of the project developer, which may be taken up by one or more of the actors in the overall process. In the case of the Tiruppur Area Development Program, a FIRE(D) Project demonstration project, Infrastructure Leasing and Financial Services has performed multiple roles, as the overall project developer as well as investment banker and financial advisor. The Tiruppur Exporters' Association, as a stakeholder consumer group, also contributed to process management.

In recognition of this critical role, many state governments have also begun to set up facilities and funds for infrastructure project development in a commercial format. The specific missions of these facilities can vary, the common element is to provide for overall management of the process.

Task 3: Risk Management Plan

This plan will eventually accompany the DPR and includes:

- 1) Identification of key risk areas, mitigation measures and risk allocation, for which an outline is provided in the annexes;
- 2) Proposed organizational arrangements for project management, which consider the NMC's organizational structure, the project management structure and additional staff requirements;
- 3) A Risk Management and Monitoring Plan, based on the above.

Task 4: Bidding and Evaluation

The consultants provide support to the NMC in preparing the necessary documents and through the bidding process itself. Specific activities include:

- 1) Preparation of documents for Pre-Qualification
- 2) Preparation of the RFP
- 3) Participation in bidding and technical evaluation, including negotiations with bidders and finalization of the contractual agreement.

Task 5: Clearances, Concessions and Permissions

The consultants are expected to identify clearances and permissions required at the local and state levels, as well as potential state and central government tax concessions for the project. As part of this, the consultant must prepare detailed notes to support activities and interact with the concerned agencies in association with the NMC and its advisors. This activity continues throughout the contract period, and an extensive list of potential stakeholders is provided. These include local and State-level committees, as well as Revenue, Forest and Irrigation De-

partments, Railways and any other group that may have some interest or role in the project.

Task 6: Drawings in Electronic and Print Form

The consultants are expected to generate base maps for the part of the city not covered earlier by the NMC's Geographic Information Systems Study. This would include all 129 wards, with detailed survey to mark water supply, sewer, storm and drain pipelines, as well as public open wells and borewells; valves and fire hydrants and chambers for these systems.

Specific maps will be developed for the water supply system, the sewerage system and stormwater drains, covering both existing and proposed facilities. Detailed specifications are provided in the RFP, and once verified by the NMC, all maps are to be translated into electronic media. The NMC may provide an engineer to assist the consultant in conducting the necessary field surveys.

Solicitation and Evaluation of Proposals

In July, 1998, the NMC placed newspaper advertisements announcing the issue of an RFP for consultancy services and outlining eligibility criteria for submission of offers, as follows:

- 1) Past experience in preparation of master plans and project development, management and monitoring for water supply and sewerage projects of similar nature;
- 2) Past experience in providing consultancy services for infrastructure projects which were or are being implemented with private sector participation;
- 3) Past experience in detailed survey and preparation;

- 4) Average turnover of Rs. 20 million (approx. \$500,000) per year for the preceding three years.

It was clear that no single firm possessed experience in both technical and financial aspects of urban environmental infrastructure project development. Thus, it was expected that prospective bidders would form consortia to undertake the work, and twelve such consortia submitted proposals. A pre-bid meeting was held to answer questions and discuss technical and financial issues, and proposals were due one month after the release of the RFP.

After a thorough evaluation process that considered both technical and financial merits, the NMC awarded the contract to a consortium led by Tata Consulting Engineers and Tata Consultancy Services.

Implementing the Assignment

Included in the RFP is a project schedule that identifies eighteen different outputs expected of the consultant, and an estimated schedule for their completion and submission. At least five copies of reports are expected to be submitted in both print and electronic form, though the actual number of DPRs and RFP documents will be determined at the bidding stage. For its part, the NMC agrees to make its best efforts to provide information and to facilitate the participation and assistance of other agencies.

The NMC has established a Technical and Financial Advisory Committee which will provide general direction and guidance in implementation of the project. At various stages, the consultant is expected to make presentations to this committee as well as officials and other individuals identified by the NMC. These review meetings will form the basis for formulation and completion of future work at every stage of the assignment. The NCM also took the important step of forming a Steering Committee comprising key decision-makers at local and state levels and other advisors. The role of the Steering Committee is to guide the NMC and to expedite process-related aspects of project development.

As the TCE-TCS consortium moves forward to assist the city of Nagpur, the scope of work provides a model which can be adapted and applied in other cities in India.

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This *Project Note* is based on the following documents: *Request for Proposal for Consultancy Services for Preparation of Project Proposals for Water and Sewerage Services*, produced by the Nagpur Municipal Corporation with assistance from the FIRE(D) Project and issued in July, 1998; and *Commercial Viability in Urban Infrastructure Development in India: From Projects to Institutional Reforms* by Meera Mehta and V. Satyanarayana.

## Indo-US Financial Institutions Reform and Expansion Project - Debt Market Component FIRE(D)

The mission of the Indo-US FIRE(D) Project is to institutionalize the delivery of commercially viable urban environmental infrastructure and services at the local, state and national levels. Since 1994, the Project has been working to support the development of such demonstration projects and the development of a sustainable urban infrastructure finance system. Now, the Project is pursuing this mission through:

- Expansion of the roles of the private sector, NGOs and CBOs in the development, delivery, operation and maintenance of urban environmental infrastructure;
- Increased efficiency in the operation and maintenance of existing water supply and sewerage systems;
- Strengthened financial management systems at the local level;
- Development of legal and regulatory frameworks at the state level;
- Continued implementation of the 74th Constitutional Amendment; and
- Capacity-building through the development of an Urban Management Training Network.

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